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Circumstances Impacting Cost of Equity through Integrated Reporting: A Competitive Analysis of Indonesian Companies

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ABSTRACT

This study investigates how the integrated reporting (IR) framework influences the cost of equity (COE) among 115 non-financial firms listed on the Indonesia Stock Exchange from 2016 to 2020. The IR disclosure index is developed through content analysis of companies' annual reports, while COE is estimated using the Capital Asset Pricing Model (CAPM). The findings reveal that higher IR coverage corresponds to an increase in COE in the subsequent year, indicating that comprehensive disclosure does not immediately reduce equity financing costs. The findings offer insights for regulators in designing standardized IR policies, for investors in evaluating informational credibility in emerging markets, and for firms in improving disclosure practices to enhance market confidence. Future research is encouraged to examine longer post-implementation periods and element-specific IR indicators.

Keywords: Integrated reporting; voluntary; COE; Indonesia.

INTRODUCTION

In developing countries such as Indonesia, where Integrated Reporting (IR) adoption remains largely voluntary, the impact of IR on capital market outcomes, particularly the cost of equity (COE), remains unclear. The cost of equity shows how much risk investors think a company can handle and how much they trust it to make money. A firm's COE affects its capital structure and investment returns, thereby determining competitiveness in capital markets [17].

Prior research emphasizes that higher equity costs constrain investment and performance, whereas lower equity costs foster growth and innovation. Empirical evidence shows that disclosure quality [15], financial accessibility [3], and regulatory transparency [10] significantly influence firms' competitiveness and financing costs. Recent literature further highlights that organizational competitiveness increasingly depends on dynamic capabilities and innovation-based resources. For example, innovation potential helps businesses do better in new markets [10], and a culture of sharing knowledge and going digital helps businesses create long-term value [27]; [34]. Prior studies also show that Integrated Reporting (IR) enhances informational transparency for capital providers, affecting both firm value and financing costs [21]; [2]; [23]; [19].

The global movement toward IR gained momentum after the 2008 financial crisis, which revealed the limitations of traditional reporting in capturing interconnected financial and sustainability risks [30]. The Fourth Industrial Revolution further strengthened the need for comprehensive corporate communication. The International Integrated Reporting Council (IIRC) released the IR Framework in 2013 and updated it in 2021 to make it more useful, comparable, and accountable [14]. The Financial Services Authority (OJK) in Indonesia made disclosure practices stronger with POJK No. 51/2017, but IR adoption is still optional and varies from company to company. In developing markets where information asymmetry is high, voluntary disclosure is still an important way to improve accountability and trust among stakeholders [30].

Theoretically, IR is anticipated to bolster governance by augmenting legitimacy and indicating long-term value creation [34]. According to signaling theory, reliable and thorough IR disclosures should lessen information asymmetry and lower COE. Legitimacy theory similarly predicts that transparent disclosure strengthens stakeholder trust. However, these benefits depend heavily on credibility, assurance, and the quality of disclosures. In emerging markets with voluntary and unaudited reporting structures, IR may increase uncertainty, create noise rather than clarity, and weaken its effectiveness as a market signal.

Relationship to Prior Literature

Empirical findings on the relationship between IR and COE are mixed. Some studies report that enhanced transparency reduces perceived risk and lowers COE [22]; [12]; [33], consistent with signaling

theory. However, other evidence, particularly from emerging markets, shows that IR may increase or have no effect on COE when disclosures are symbolic, selective, or difficult to verify [18]; [23]. In these situations, investors might see IR as complicated instead of helpful information, which would raise risk premiums. Research on ESG and sustainability reporting demonstrates that subpar or formulaic disclosures can intensify uncertainty and lead to erratic capital market results [18]. These divergent findings highlight the context-dependent nature of IR's effectiveness, influenced by institutional credibility, enforcement quality, and reporting maturity.

IR adoption in Indonesia before 2021 remained voluntary, heterogeneous, and largely unaudited, with only around 40 non-financial firms consistently implementing IR practices [28]. This voluntary environment results in substantial variation in disclosure quality and limits IR's credibility as a reliable market signal. While some studies note that enhanced disclosure reduces equity financing costs by lowering perceived risk [22], others caution that market responses may not be linear under certain governance conditions [35]. IR may reduce information asymmetry and agency costs when implemented substantively [33]. Based on signaling theory, voluntary disclosure theory, and evidence that credible transparency reduces risk, this study formulates the following hypothesis:

H_1: Integrated reporting coverage negatively affects the cost of equity capital.

This study provides the first multi-period (t, t+1, t+2) examination of IR and COE during Indonesia's voluntary adoption phase (2016–2020). Unlike jurisdictions where IR is mandatory, Indonesian firms adopt IR heterogeneously and without external assurance, creating a unique setting to observe how capital markets interpret non-standardized disclosures. Methodologically, this study develops an IR index based on the ten IIRC guiding principles, addressing prior limitations in measurement approaches. Empirically, the study clarifies whether IR produces substantive or symbolic effects in emerging markets with transitional regulatory structures. Contextually, it provides timely evidence on how non-financial disclosures are interpreted under voluntary adoption environments, where reporting maturity and institutional credibility continue to evolve.

RESEARCH METHOD

Sampel Selection and Data Collection

The sample consists of 115 non-financial firms listed on the Indonesia Stock Exchange (IDX) that published both annual reports and sustainability reports (separate or integrated) during the 2016–2020 period. This period represents Indonesia's voluntary Integrated Reporting (IR) adoption phase, before the introduction of mandatory sustainability reporting requirements in 2021. During these five years, IR practices evolved organically following OJK's regulatory encouragement through POJK No. 51/2017**,** yet reporting remained discretionary, unaudited, and heterogeneous across firms. This environment provides a unique empirical setting to examine the signaling value and credibility of voluntary IR disclosures.

Reporting years 2021–2024 were excluded because IR and sustainability reporting began transitioning into mandatory practice, leading to inconsistencies driven by transitional adjustments, delayed filings, and COVID-19 disruptions. Including post-2021 data would generate an unbalanced panel and bias comparability.

Financial data were obtained from Osiris (Airlangga University) and Bloomberg**,** while disclosure data were extracted from firms' annual and sustainability reports. Table 1 summarizes the sampling procedure.

Table 1. Determination of Company Sample

Criteria Sampling	Observations
Non-financial, which are listed on the IDX from 2016 through 2020	407
(-) Companies that do not have complete annual and sustainability reports (separate or integrated) from 2016 through 2020	(292)
Companies used as the sample	115
Research Period (2016-2020)	5
Total Observation	**575**

Variable Measurement

Independent Variable: Integrated Reporting (IR) Coverage

IR coverage is measured using a principles-based disclosure index derived from the ten Guiding Principles of the International Integrated Reporting Council (IIRC), namely: (1) Strategic focus; (2) Future orientation; (3) Connectivity of information; (4) Stakeholder relationships; (5) Materiality; (6) Conciseness; (7) Reliability and completeness; (8) Consistency and comparability; (9) Governance; (10) Value creation over time.

Measurement Approach

A binary scoring system (0–1) is applied: 1 = principle explicitly disclosed in the annual or sustainability report; 0 = not disclosed. Binary scoring

ensures comparability across firms with different report lengths and avoids inflation due to repetitive or verbose narrative disclosures.

NVivo Based Content Analysis

Content analysis was conducted using NVivo 12 following these steps: (1) Each IIRC principle was created as a node; (2) Coding was performed at the paragraph level; (3)A coding dictionary was developed outlining semantic and thematic indicators for each principle; (4) The process included two-stage coder consistency checks to ensure reliability; (5) Discrepancies were resolved through comparative validation and review.

IR Index Formula

The IR Coverage Index ranges from 0 to 10, where higher values indicate stronger and broader adoption of IR principles.

$$IRCoverage_{i,t} = \sum_{p=1}^{10} Disclosure_{i,t,p}$$

Dependent Variable: Cost of Equity (COE)

The Capital Assets Pricing Model (CAPM) is used to calculate the cost of equity:

$$Ke_i = R_f + [\beta_i \, x \, (R_m - R_f)]$$

where:

- Ke_i Is the expected return on the financial assets of company i. It is the cost of equity of company i.
- R_f Is the risk-free rate of return. The reference for risk-free rate investment in Indonesia is the return rate of Indonesian government bonds.
- β_i Is the beta value of the financial assets of company i.
- β_i Covariance/variance
  Covariance is the variance of a share's return for company i relative to the market's return.
  Variance is the variance of the market's return. The market return is the return of the Jakarta Stock Exchange Composite Index.
- R_m Is the average return on the capital market, which in this study is the Indonesian Stock Exchange (IDX), also known as the Jakarta Stock Exchange Composite Index.

This method is widely used in capital market research and is preferred over dividend growth models due to its ability to capture systematic risk [11].

Robustness Variable: Weighted Average Cost of Capital (WACC)

To validate the robustness of the IR and COE relationship, the cost of equity is replaced with WACC.

$$WACC_i = \left(\frac{Debt_i}{Debt_i + Equity_i} x\, kd_i\right) + \left(\frac{Debt_i}{Debt_i + Equity_i} x\, ke_i\right)$$

where:

- $WACC_i$ is the weighted average cost of capital for company i.
- $Debt_i$ is the total book value of debt of company i
- $Equity_i$ is the total market value of shareholder capital of company i

After tax cost of debt:

$$After - tax\ cost\ of\ debt_i = \frac{Annual\ interest\ expense_i}{total\ debt}\ x\ (1 - tax\ rate)$$

WACC provides a broader measure of financing cost and confirms whether IR influences total capital costs of equity alone.

Control Variables

Following prior research [5]; [31];[32];[33];[11], this study includes the following: Firms Size = Ln total assets; Leverage = total debt/total assets, Profitability = net income / total assets (ROA); Liquidity = current assets/current liabilities [6]; [11]; Firm Age = years since establishment [29]; [3]. These variables control for financial stability, capital structure, and firm maturity, which influence perceived risk and COE.

Research Model

To capture immediate and delayed capital market reaction, three regression models are estimated:

Model 1 (Contemporaneous Effect)

$$COE_{i,t} = \beta_0 + \beta_1\ IR\ Coverage_{i,t} + \beta_2\ Firm\ Size_{i,t} + \beta_3\ Leverage_{i,t} + \beta_4\ Profitability_{i,t} + \beta_5\ Liquidity_{i,t} + \beta_6\ Firm\ Age_{i,t} + \varepsilon_{i,t}$$

Model 2 (One year lag)

$$COE_{i,t+1} = \beta_0 + \beta_1\ IR\ Coverage_{i,t} + \beta_2\ Firm\ Size_{i,t} + \beta_3\ Leverage_{i,t} + \beta_4\ Profitability_{i,t} + \beta_5\ Liquidity_{i,t} + \beta_6\ Firm\ Age_{i,t} + \varepsilon_{i,t}$$

Model 3 (Two-year lag)

$$COE_{i,t+2} = \beta_0 + \beta_1\ IR\ Coverage_{i,t} + \beta_2\ Firm\ Size_{i,t} + \beta_3\ Leverage_{i,t} + \beta_4\ Profitability_{i,t} + \beta_5\ Liquidity_{i,t} + \beta_6\ Firm\ Age_{i,t} + \varepsilon_{i,t}$$

The lag models accommodate literature indicating that capital markets may assimilate non-financial information gradually due to processing complexity.

Robustness Models Using WACC

Three additional models replace COE with WACC to validate the stability of empirical findings:

$$WACC_{i,t} = \beta_0 + \beta_1\ IR\ Coverage_{i,t} + \beta_2\ Firm\ Size_{i,t} + \beta_3\ Leverage_{i,t} + \beta_4\ Profitability_{i,t} + \beta_5\ Liquidity_{i,t} + \beta_6\ Firm\ Age_{i,t} + \varepsilon_{i,t}$$

$$WACC_{i,t+1} = \beta_0 + \beta_1\ IR\ Coverage_{i,t} + \beta_2\ Firm\ Size_{i,t} + \beta_3\ Leverage_{i,t} + \beta_4\ Profitability_{i,t} + \beta_5\ Liquidity_{i,t} + \beta_6\ Firm\ Age_{i,t} + \varepsilon_{i,t}$$

$$WACC_{i,t+2} = \beta_0 + \beta_1\ IR\ Coverage_{i,t} + \beta_2\ Firm\ Size_{i,t} + \beta_3\ Leverage_{i,t} + \beta_4\ Profitability_{i,t} + \beta_5\ Liquidity_{i,t} + \beta_6\ Firm\ Age_{i,t} + \varepsilon_{i,t}$$

If IR affects firm risk perception, the relationship should persist in both COE and WACC estimations.

RESULTS AND DISCUSSION

Sample Description

The number of observations, mean, standard deviation, and minimum and maximum values of the variables in the model are all broken down statistically in Table 2. The sample for the study comprises 575 firm years, as indicated by the findings. The average IR coverage is 0.435 and the average COE is 1.210. Table 2 displays the findings.

Based on the IR framework, the minimum value of the IR coverage score reveals that some companies in the annual report only covered 0.1% of the 10 elements of the IIRC framework in 2013, whereas the maximum coverage reached 37.12% and the average coverage was 9.316%. This indicates that not all non-financial companies in Indonesia included in this observation have fully embraced the IIRC framework. The IR coverage number undergoes a log transformation due to its high standard deviation value (greater than 3). The COE variable's maximum value is 30.10%. The COE variable has a minimum value of -6,200. Indirectly, this result indicates that investors in the stock market expect high returns. Given the relatively high standard deviation of COE, we perform a log transformation.

Table 2. Descriptive Statistics

Variable	Mean	Median	Std. Dev.	Min	Max
COE (normal)	10.157	9.700	5.507	-6.200	30.10
COE(Log)	1.210	1.223	0.157	-0.097	1.569
WACC	0.071	0.070	0.041	-0.027	0.244
IR Coverage (normal)	9.316	1.340	10.01	0.100	37.12
IR Coverage (Log_IRCoverage)	0.435	0.127	0.813	-1.00	1.570
FirmSize	23.01	23.00	1.508	17.70	26.59
Lev	0.500	0.483	0.234	0.077	1.989
Profi	0.038	0.034	0.104	-1.050	0.527
Liquid	1.450	1.100	1.215	0.010	8.510
Firm Age	1.142	1.204	0.312	0.000	1.643

Note: The variables under investigation have descriptive statistics in this table: The Capital Assets Pricing Model (CAPM) is used to evaluate the cost of equity, or COE. As a robustness test, the weighted average cost of capital (WACC) is used to assess the cost of capital (COC). According to the IIRC (2013) framework principles, IR Coverage uses content analysis ratings obtained from annual and sustainability reports. ROA is the ratio of net income to total assets, LEV is the ratio of total debt to equity, and SIZE is the natural logarithm of total assets. Additionally, the years since the company's founding are counted to calculate its age, and the current ratio is used to evaluate liquidity.

Regression Result

The correlation matrix between the independent and control variables is presented in Table 3. There is no strong link between the variables, according to their findings. Additionally, Table 3 demonstrates that there is no multicollinearity issue since each variable's variance inflation factor (VIF) is less than 10.

Table 3. Matrix of Correlations

Variable	IR Cov	Firm Size	Lev	Profit	Liquid	Firm Age
IR Coverage	1.000	0.177***	-0.032	0.039	0.075	0.004
FirmSize		1.000	0.199	0.127	-0.139	0.168
Lev			1.000	-0.383	-0.507	0.146
Profit				1.000	0.149	0.098
Liquidity					1.000	-0.234
Firm Age						1.000
Collinear (VIF)	1.044	1.150	1.633	1.259	1.403	1.099

Note: Table 2 shows the correlation matrix of the variable used in our main analysis. The value marked with asterisks *** 0.01 significance level, ***0.05 significance level, *0.1 significance level, respectively.

The results presented in Table 4 show that the final panel effects model, which answers the hypothesis, is random effects. The chow test chooses between a common-effect (pooled least squares) and a fixed-effect model. Since the p-value is less than 5%, the Chow test indicates that the appropriate model is the fixed-effect model. In contrast, the Breusch-

Pagan test indicates that the random-effect model is better than the common-effect (p-value 0.0000 is less than 5%). The Hausman test results also support this, indicating that the random effects model outperforms the fixed effects model (p-value 0.253947 higher than 5%).

Table 4. Panel Test

Test	Chow test	Breusch-Pagan Test	Hausman Test	Heteroscedasticity Test
P-value	0.000	0.000	0.2539	P(Chi-square(27) > 23,7873) = **0.6421**
Result	**Fixed Effect**	**Random effect**	**Random effect**	

Hypotheses and Study Results

The second equation in Table 4 shows that the disclosure of the adoption of an IR has a significant positive effect on COE in Indonesia. The observation period is one year after the adoption of the integrated report. This indicates that after the disclosure of integrated report adoption, companies are unable to reduce COE. This result is in line with several previous studies [25]; [4]; [12]; [23]. Consistent with recent evidence published in the same journal, [24] emphasized that ESG disclosure often embedded within integrated reporting practices, enhances stakeholder confidence and strengthens firm credibility. However, the short-term implementation costs and complexity of achieving credible ESG and integrated disclosures may temporarily increase financing costs before delivering long-term value creation. These results suggest that the adoption of IR practices may directly affect firm performance, but it involves additional high-cost resources that may not create value for shareholders in the short term, but the market will respond to this value creation, which will affect firm value in the future or in the long term.

It is important to clarify that the reference to ES G in this section does not introduce a new variable into the analysis. Instead, ESG is mentioned solely to provide contextual alignment with the broader literature on non-financial disclosure. IR integrates sustainability-related content including environmental, social, and governance information, into a single narrative framework. Thus, prior studies often position IR within the same continuum as ESG reporting, where both serve to enhance corporate transparency, stakeholder assurance, and accountability. The brief mention of ESG, therefore, aims to reinforce the theoretical reasoning behind the role of IR as a composite disclosure mechanism, rather than shifting the focus of the study.

The results go counter to signaling theory. According to signaling theory, businesses may increase transparency and investor trust by providing the market with additional information. This should ideally lower the cost of equity capital. Furthermore, the results contradict the voluntary disclosure hypothesis, which holds that businesses should voluntarily provide more information to lessen the information asymmetry that exists between them and investors and enhance their reputation. The findings indicate that integrated reporting (IR) signals are not effective in reducing the cost of equity because the credibility and consistency of IR disclosures in Indonesia vary significantly across firms. Although signaling theory suggests that more transparent disclosure should lower perceived risk, this effect depends on the strength and reliability of the signal. In practice, many IR disclosures remain generic, unaudited, and heterogeneous in quality, leading investors to question their substantive informational value. As a result, IR fails to operate as a strong positive market signal that reduces information asymmetry. Instead, inconsistent or symbolic disclosures may heighten investor skepticism, increase uncertainty and cause capital providers to demand higher returns as compensation for perceived risk. This explains why signals do not translate into lower COE in this study.

Since there may be other influencing factors, such as increased market uncertainty or excessive investor expectations after disclosure, which could cause investors to demand higher returns as compensation for perceived risk, the findings of this study are not entirely supported by either the signaling or voluntary disclosure theories. These findings should also be interpreted within the context of the Indonesian stock market. The Indonesian capital market is characterized by moderate liquidity, high ownership concentration, and limited minority investor protection. Under these conditions, voluntary disclosures such as IR may be perceived as insufficiently credible to reduce perceived risk. Moreover, IR disclosures remain heterogeneous and are often unaudited, which weakens their value as reliable market signals. As a result, investors may maintain a higher risk premium despite increased disclosure, leading to a limited reduction in the cost of equity.

Recent empirical evidence supports this argument, demonstrating that the market does not always interpret additional disclosures positively. For instance, [13] found that certain types of risk disclosures emphasizing volatility can increase the cost of equity because investors associate them with greater uncertainty. Similarly, [20] reported that ESG reporting may raise the cost of capital due to the complexity of disclosed information and heightened

investor expectations. In addition, [9] found that risk disclosure in Indonesia does not always have a significant negative effect on cost of capital. Moreover, its effect is weakened by earnings management practices, suggesting that additional disclosure can be interpreted differently by investors depending on the context of governance and reporting quality. These findings collectively provide insight that additional information is not always received positively by the market and that increased uncertainty or investor expectations may, paradoxically, lead to a higher cost of capital.

The findings in Table 5 further demonstrate a correlation between COE and control factors, with COE significantly positively impacted by firm size. This outcome is consistent with the findings of [33]. According to this research, bigger businesses often have higher equity costs because of the complexity of their administration, which might make investors feel more risk-averse. In contrast, company age has no discernible effect on COE, as, in developing markets, the market's assessment of the business's potential for long-term development is more crucial than firm age.

Furthermore, liquidity has little impact on COE. [11] discovered that since other criteria are more important in assessing risk and anticipated return, investors do not consider liquidity to be a significant risk factor. This conclusion is consistent with the results of [8], as leverage has no discernible impact on the cost of equity. These findings suggest that the cost of equity capital is unaffected by investors' favorable opinions of the company's practices for controlling leverage and moderate risks.

Another finding in this study is that Return on Assets (ROA) exhibits a significant negative effect on the cost of equity. This is consistent with more recent evidence. [15] found that firms with higher profitability tend to command a lower cost of equity, especially when supported by strong risk disclosure quality. Similarly, [16] emphasized that firms with higher profitability and stronger disclosure credibility tend to experience lower costs of equity, as transparent reporting enhances investors' trust and reduces perceived risk. Likewise, [27] highlighted that in the insurance sector, higher profitability helps reduce investor-perceived risk, thereby lowering the cost of equity. These findings support the notion that investors perceive profitable firms as less risky, leading to a lower required rate of return.

The regression results in Table 5 show that the effect of Integrated Reporting (IR) coverage on the cost of equity (COE) varies across the three observation periods. In year t, IR coverage exhibits a positive but statistically weak association with COE, indicating that the market does not interpret IR as an immediately credible or risk-reducing signal. In year t+1, however, the coefficient becomes positive and statistically significant. This suggests that investors require an additional reporting cycle to assess the credibility and decision-usefulness of IR disclosures. Such a delayed reaction is consistent with prior capital market literature showing that narrative, non-financial, and principles-based disclosures are often incorporated into market pricing with delay**,** particularly in emerging markets where investors face higher information processing costs and where disclosure assurance is limited. By year t+2, the effect becomes statistically insignificant, indicating that the influence of IR is not persistent and diminishes as other firm-level fundamentals and macroeconomic conditions become more salient in shaping investor expectations. Overall, this pattern demonstrates that IR affects COE through a delayed but non-persistent market response.

Table 5. Regression Result of Hypothesis Testing

Independent Variable	Dependent Variable		
	COE_t	COE_{t+1}	COE_{t+2}
IR Coverage	0.0117	0.0187*	0.0155
	(0.0106)	(0.0108)	(0.0144)
Firm Size	0.0333***	0.3071***	0.0391***
	(0.0073)	(0.0075)	(0.0083)
Leverage	-0.0318	0.0059	-0.0207
	(0.0419)	(0.0491)	(0.0608)
Profitability	-0.1159*	-0.0774	-0.1049
	(0.0689)	(0.0744)	(0.0865)
Liquidity	0.0018	0.0026	0.0062
	(0.0067)	(0.0074)	(0.0093)
Firm Age	0.0157	0.0147	0.0377
	(0.0313)	(0.0362)	(0.0435)
Cons	0.4390***	0.4749***	0.2588
	(0.1645)	(0.1686)	(0.1895)
F-test	26.3614	24.905	29.0409
P-value F-test	0.0002	0.0004	5.9761e-05
Adjusted R^2	0.1115	0.1216	0.1549

Notes: The regression findings on the impact of IR Coverage on COE are shown in this table. Parentheses are used to indicate standard errors. Asterisks denote the following values: *0.1, ***0.05, and ***0.01 at the significance levels, respectively.

Taken together, these results challenge the core predictions of signaling theory and voluntary disclosure theory, both of which posit that more transparent and comprehensive disclosure should reduce information asymmetry and lower the cost of equity. For signaling mechanisms to operate effectively, disclosures must be perceived as credible, consistent, and costly to imitate. In Indonesia's voluntary reporting environment, where IR is unaudited, heterogeneous across firms, and often presented in generic or symbolic form, these credibility conditions are only partially met. As a result, IR fails to function as a strong positive signal that reduces

perceived risk. Instead, investors may interpret IR disclosures as noise or symbolic compliance, particularly when the quality, specificity, or verifiability of information varies considerably across firms.

This interpretation aligns with the disclosure credibility and information-usefulness perspectives, which argue that disclosure does not automatically reduce risk; instead, the market responds negatively or neutrally when the credibility, consistency, or economic relevance of such information is uncertain. In settings with weak enforcement, concentrated ownership, and limited protection for minority shareholders, conditions typical in Indonesia, additional disclosure may even heighten uncertainty. This theoretical view is reinforced by prior empirical evidence showing that non-financial disclosure can increase COE when the information is complex, difficult to verify, or perceived as symbolic rather than substantive. For example, [13] finds that risk-related disclosures may elevate risk perceptions, while [20] documents that ESG reporting can raise financing costs when investors view the information as complex or lacking assurance. Similar evidence in Indonesia indicates that disclosure quality and governance context shape whether additional information lowers or raises the cost of capital [9].

The findings also show that firm size is positively associated with COE, consistent with the argument that larger firms engage in more complex operations, increasing perceived risk. Meanwhile, profitability demonstrates a negative association with COE, aligning with the notion that investors perceive more profitable firms as less risky. Other controls (liquidity, leverage, and firm age) do not exhibit consistent significant effects, suggesting that the market places greater weight on profitability and operational complexity when assessing equity risk in this context.

Overall, the delayed and positive IR and COE relationship documented in this study provides empirical support for the notion that IR operates as a symbolic rather than a substantive disclosure mechanism in Indonesia during the voluntary (pre-mandatory) adoption phase. This outcome reinforces the research gap identified in the introduction; although IR is theoretically designed to reduce information asymmetry and enhance investor confidence, its effectiveness depends critically on disclosure credibility, assurance, and reporting maturity. In an emerging market with heterogeneous implementation and limited enforcement, IR does not generate the risk-reducing benefits predicted by signaling or voluntary disclosure theories. Instead, it may create additional uncertainty, leading to a higher cost of equity, at least in the short term. These findings help explain the inconsistent results in prior IR and COE literature and highlight the importance of institutional context when evaluating the capital market consequences of IR adoption.

Table. 6. Robustness Test Result

Independent Variable	Dependent Variable		
	$WACC_t$	$WACC_{t+1}$	$WACC_{t+2}$
IR Coverage	0.0044	0.0074**	0.0052
	(0.0028)	(0.0029)	(0.0039)
Firm Size	0.0032	0.0034	0.0059***
	(0.0019)	(0.0021)	(0.0023)
Leverage	-0.0297***	-0.0227*	-0.0364**
	(0.0108)	(0.0135)	(0.0163)
ROA	-0.0068	-0.0098	-0.0172
	(0.0174)	(0.0200)	(0.0228)
Liquidity	0.0012	0.0008	0.0017
	(0.0017)	(0.0020)	(0.0025)
Firm Age	0.0002	0.0147	0.0107
	(0.0083)	(0.0362)	(0.0118)
Cons	0.0145	0.0039	-0.0609
	(0.0445)	(0.0483)	(0.0513)
F-test	17.3099	14.2493	17.7236
P-value F-test	0.0082	0.0269	0.0069
Adjusted R^2	0.0873	0.0865	0.1223

The following significance levels are noted: ***0.01, **0.05, and *0.1. Parentheses are used to indicate standard errors.

Table 6 displays the statistical findings regarding the impact of IR score adoption on capital expenses. The three equations' results agree with Table 4's findings. The cost of capital is much improved by IR adoption disclosure, as shown by the second equation. To sum up, Table 6's findings demonstrate that this study's statistical findings are solid.

This research offers further proof that information sharing, in line with the IR paradigm, only slightly decreases COE. Information on the IR framework has not always been disclosed, as Table 6 illustrates. This is because Indonesia does not have a uniform regulatory framework that mandates that businesses use the IR framework. The cost of equity, on the other hand, usually stays at 10%. This circumstance may help explain why IR coverage has little effect on the cost of equity. At a one-year lag, this association is substantial, but it is also relatively small.

Table 7. Result of Two Sample Assuming Equal Variance T-Test

Period	2016	2017	2018	2019	2020
IRCoverage	9.23	9.78	10.1	7.35	10.12
p-value paired sample t-test		0.3413	0.7869	3.622E-09***	2.913E-09***
COE	9.7817	10.2809	10.0443	10.4565	10.2217
p-value paired sample t-test		0.056*	0.4078	0.0974*	0.6328

Notes. *0.1, **0.05, and ***0.01 significance levels, respectively.

The descriptive trends and paired sample t-test results in Table 7 provide additional contextual evidence supporting the regression findings. Although IR coverage shows fluctuations across the five-year period, the changes are not uniformly upward, and disclosure intensity varies considerably among firms. The decline in IR coverage in 2019 reflects the onset of the COVID-19 pandemic, which disrupted reporting processes and reduced firms' ability to provide complete, forward-looking narrative disclosures. In 2020, however, IR coverage increases sharply, driven by firms' attempts to communicate resilience strategies, risk management responses, and stakeholder engagement during the crisis. This pattern suggests that IR is used reactively in Indonesia, strengthened mainly during periods of heightened uncertainty rather than as a consistent strategic communication tool.

The COE values exhibit a relatively stable movement across 2016–2020, remaining close to the 10 percent range. The lack of substantial year-to-year changes indicates that the Indonesian capital market does not interpret IR disclosures as sufficiently credible to alter perceived risk at the aggregate level. Even though IR coverage increased in certain periods, investors did not respond with a corresponding reduction in financing costs. This stability is consistent with the regression results showing that IR's influence on COE is neither immediate nor persistent, and that its magnitude is limited compared with firm-level fundamentals.

From a theoretical perspective, these findings reinforce the argument that IR operates as a symbolic disclosure mechanism during the voluntary adoption phase in Indonesia. While signaling theory predicts that increased transparency should lead to lower perceived risk and thus lower COE, the empirical pattern in Table 7 suggests otherwise. The inconsistency and reactive nature of IR disclosure may prevent investors from forming strong expectations about the informational value of IR. Furthermore, voluntary disclosure theory highlights that firms may disclose information strategically, particularly during periods of external pressure such as the pandemic, which may amplify rather than reduce perceived uncertainty.

The fluctuation in IR coverage also demonstrates the credibility gap emphasized in the introduction: where reporting lacks standardization and external assurance, investors may struggle to differentiate substantive disclosures from symbolic ones. As a result, the market may not reward firms with lower perceived risk, even when disclosure intensity increases. Rather, investors may interpret increased disclosure during crisis periods as a reactionary response or as evidence of heightened risk, consistent with the information usefulness and disclosure credibility perspectives.

Finally, the paired t-test results show significant differences in IR coverage in several year-to-year comparisons, particularly 2018–2019 and 2019–2020, indicating structural changes in disclosure patterns. These shifts, however, do not translate into significant reductions in COE. In fact, some periods with increased IR coverage correspond with higher COE (e.g., 2019), underscoring the central finding of this study: IR, under voluntary, heterogeneous, and unaudited conditions, does not reduce equity financing costs and may even contribute to increased investor uncertainty.

Overall, the evidence from Table 7 strengthens the conclusion that IR's capital market effects in Indonesia are limited and context-dependent. The findings highlight the importance of regulatory enforcement, disclosure assurance, and reporting maturity in shaping whether IR can function as a credible mechanism for reducing information asymmetry and perceived risk.

General Discussion and Implications

The overall empirical evidence from this study indicates that Integrated Reporting (IR) disclosure is associated with a higher cost of equity (COE), particularly in the t+1 period, contrary to the initial hypothesis that IR would reduce perceived risk. This pattern provides meaningful insight into how voluntary non-financial disclosure operates in emerging markets such as Indonesia, where institutional credibility, enforcement structures, and disclosure assurance remain limited. From a theoretical standpoint, the findings suggest that the mechanisms predicted by signaling theory and voluntary disclosure theory do not fully materialize in contexts where the quality and credibility of disclosure vary substantially across firms. Signaling theory posits that firms provide credible information to reduce information asymmetry; however, in Indonesia's voluntary environment, IR disclosures remain largely unaudited, heterogeneous, and occasionally symbolic. As a result, investors may not interpret IR as a strong or reliable signal of lower risk. The positive IR and COE association therefore aligns more closely with information credibility theory and information overload theory, which argue that disclosures lacking verification or consistency can increase perceived uncertainty rather than reduce it.

The results are also consistent with the legitimacy symbolism perspective, which suggests that firms may adopt IR to signal responsible governance without necessarily providing substantive information. When disclosures are symbolic or largely narrative, investors may treat them as noise, leading to higher rather than lower required returns. This mechanism helps explain why IR does not

produce a contemporaneous effect in year t and why the significant impact occurs at t+1; investors require additional time to interpret, validate, and assess the credibility of the information disclosed. The lag structure (t, t+1, t+2) provides further insights. The absence of a contemporaneous effect indicates that IR is not immediately priced by the market, likely because non-financial disclosure demands additional processing time, especially in markets with low familiarity and limited analyst coverage. The significant effect at t+1 reflects a delayed assimilation period, consistent with market reaction theory, which posits that investors in emerging markets respond more slowly to complex or unfamiliar disclosures. By t+2, the effect dissipates, suggesting that IR does not exert a persistent influence on perceived risk. This temporal pattern reinforces the argument that IR functions as a short-term informational shock rather than a stable risk-reducing mechanism in Indonesia's voluntary adoption period.

These findings collectively address the conceptual and empirical gaps identified in the introduction. The study demonstrates that IR does not automatically reduce the cost of equity, particularly when disclosed under conditions of weak assurance, limited reporting maturity, and inconsistent adoption. Instead, IR may increase perceived uncertainty, highlighting the importance of contextualizing theoretical expectations within country-level institutional environments.

Practical implications also emerge from the results. For firms, the findings indicate that adopting IR does not guarantee lower financing costs in the short term. Firms must ensure that disclosures are consistent, material, and supported by credible assurance mechanisms if they seek to achieve the theoretical benefits predicted by signaling theory. For regulators such as OJK, the evidence suggests that mandatory guidelines, enhanced assurance standards, and clearer reporting frameworks may be necessary to strengthen the credibility and usefulness of IR. Without regulatory alignment and enforcement, voluntary disclosure may fail to deliver its intended capital market benefits.

Finally, the results offer important implications for investors. The lack of immediate or persistent effects indicates that investors remain cautious in interpreting voluntary non-financial disclosures. This reinforces the need for analysts and institutional investors to incorporate firm-level disclosure quality assessments when evaluating risk.

Overall, the study advances the literature by demonstrating that IR's effect on COE is not universal but highly dependent on institutional quality, disclosure credibility, and market maturity. These insights enrich theoretical understanding and provide a foundation for future research exploring assurance mechanisms, cross-country comparison, and investor-level responses to integrated reporting.

CONCLUSION

This study analyzes 575 firm-year observations of Indonesian non-financial companies from 2016 to 2020 to examine the effect of Integrated Reporting (IR) coverage on the cost of equity (COE). The findings show that, although IR adoption significantly influences COE, it does not reduce financing costs in the short term. Instead, the delayed and positive effect observed in the t+1 period suggests that investors require additional time to assess the credibility, completeness, and relevance of voluntary IR disclosures. These results confirm that IR has not yet functioned as an effective mechanism for reducing information asymmetry in Indonesia's voluntary reporting environment. Theoretically, the findings demonstrate that the expectations of signaling theory and voluntary disclosure theory do not fully materialize when disclosure credibility, assurance, and standardization remain weak. IR disclosures that are heterogeneous, unaudited, or symbolic may increase rather than reduce perceived risk, thereby elevating the required rate of return. This study therefore reinforces the importance of institutional context in shaping the market consequences of IR and contributes empirical evidence that voluntary IR adoption may generate informational uncertainty rather than clarity in emerging markets.

Practically, the results provide important implications for firms and regulators. Companies should strengthen the structure and consistency of IR disclosures, integrate IR with internal risk management processes, and invest in digital reporting systems to enhance data quality. Regulators such as OJK can improve disclosure effectiveness by issuing standardized IR guidelines, enhancing monitoring mechanisms, and gradually introducing assurance requirements to increase disclosure credibility. Strengthening these institutional supports is essential for IR to evolve into a value-enhancing tool that lowers financing costs and promotes long-term transparency.

This study has several limitations. The IR index uses aggregate disclosure across the ten IIRC elements without item-level identification, which may influence the observed relationships. Future research could examine each IR element individually or incorporate disclosure quality and assurance level as moderating variables. Additionally, the study focuses solely on Indonesian non-financial firms; comparative studies across countries with mandatory IR (e.g., South Africa) and voluntary IR (Southeast Asia) would provide broader generalizability.

Exploring investor-level reactions or analyst forecast accuracy may also offer deeper insight into how markets process IR information.

Overall, this study contributes to the literature by providing the first multi-period evidence on the IR and COE relationship in Indonesia during the voluntary adoption phase. The results highlight the importance of credibility, standardization, and institutional maturity in determining whether IR can effectively reduce perceived risk and enhance capital market efficiency.

Implications for Research, Practice, and Society

This study contributes to the literature by demonstrating that Integrated Reporting (IR) does not automatically reduce the cost of equity in emerging markets where disclosure credibility and institutional maturity remain limited. The findings extend signaling theory and voluntary disclosure theory by highlighting the conditions under which disclosure may increase rather than decrease perceived risk. The multi-period design (t, t+1, t+2) contributes methodologically by demonstrating the delayed and non-persistent nature of market reactions to IR. Future research may build on these insights by incorporating assurance quality, information asymmetry, or governance characteristics as moderating variables and by comparing voluntary versus mandatory IR regimes across countries.

For companies, the findings highlight that IR adoption alone is insufficient to generate lower financing costs. To enhance IR's signaling effectiveness, firms must improve disclosure credibility through consistency, completeness, integration with risk management systems, and stronger internal controls. Firms that wish to benefit from IR should invest in data quality, digital reporting tools, and reliable sustainability measurement systems. For investors and analysts, the findings emphasize the need to critically evaluate the quality, not merely the presence, of IR disclosures when assessing risk and pricing capital.

The study offers relevant insights for regulators such as OJK and Indonesian standard-setters. The positive IR and COE relationship indicates the importance of introducing clearer reporting guidelines, harmonizing IR requirements with global frameworks, and gradually implementing independent assurance mechanisms. Strengthening standardization and oversight will enhance disclosure credibility, reduce information asymmetry, and support the development of a more transparent and efficient capital market. Regulators may also use IR to align corporate reporting with national sustainability agendas and SDGs.

IR plays a broader societal role by promoting transparency, accountability, and responsible business conduct. Although the current voluntary environment has not yet produced lower financing costs, improving IR quality can support better public trust in corporate reporting, inform stakeholder decision-making, and enhance overall governance culture. Over time, credible integrated reporting can contribute to more sustainable investment behavior, improved environmental and social outcomes, and better alignment between corporate strategies and societal expectations.

REFERENCES

[1] Assidi, S. (2020). The effect of voluntary disclosures and corporate governance on firm value: A study of listed firms in France. *International Journal of Disclosure and Governance*, *17*(2–3), 168–179. https://doi.org/10.1057/s41310-020-00090-1.

[2] Bhatia, A., & Kaur, A. (2024). The influence of information asymmetry on the interaction between voluntary corporate disclosure and cost of equity: Evidence from publicly traded Indian enterprises. *International Journal of Law and Management*, *66*(1), 23–43. https://doi.org/10.1108/IJLMA-05-2023-0120.

[3] Briera, T., & Lefèvre, J. (2024). Reducing the cost of capital through international climate finance to accelerate the renewable energy transition in developing countries. *Energy Policy*, *188*(March), 114104. https://doi.org/10.1016/j.enpol.2024.114104.

[4] Cahyani, S. R., & Permatasari, I. (2025). Integrated Report Disclosure in ESG Index Companies on the Indonesia Stock Exchange: Its Impact on the Cost of Equity Capital. *Journal of Management, Accounting, General Finance and International Economic Issues*, *4*(3), 767–775. https://doi.org/10.55047/marginal.v4i3.1758.

[5] Chang, E. V., & Wirianata, H. (2025). Leverage dynamics: The role of profitability and firm size in shaping firm value. *International Journal of Application on Economics and Business* (IJAEB), *3*(2), 1084–1098.

[6] Chouaibi, Y., Belhouchet, S., Chouaibi, S., & Chouaibi, J. (2022). The integrated reporting quality, cost of equity and financial performance in Islamic banks. *Journal of Global Responsibility*, *13*(4), 450–471. https://doi.org/10.1108/JGR-11-2021-0099.

[7] Fainshtein, E., Chkoniya, V., Fiore, M., & Serova, E. (2024). An innovation potential and organizational performance: an integrative role of company's dynamic capabilities. *Agricultural and Food Economics*, *12*(1). https://doi.org/10.1186/s40100-024-00334-6.

[8] Falatifah, M., & Hermawan, A. A. (2021). Board of directors effectiveness, voluntary integrated reporting and cost of equity: Evidence from OECD countries. *International Journal of Business and Society*, *22*(1), 443–460. https://doi.org/10.33736/IJBS.3188.2021.

[9] Fauzi, I., & Firmansyah, A. (2023). Corporate social responsibility disclosure, intellectual capital disclosure, risk disclosure, cost of capital: Moderating role of earnings management. *Accounting Analysis Journal*, *12*(1), 50–70. https://doi.org/10.15294/aaj.v12i1.66185.

[10] Hao, J. (2024). Disclosure regulation, cost of capital, and firm values. *Journal of Accounting and Economics*, *77*(1), 101605. https://doi.org/10.1016/j.jacceco.2023.101605.

[11] Hatane, S. E., & Soewarno, N. (2024). CSR and financial institution ownership in managing the cost of capital. *Gestão & Produção*, *31*, e13022. https://doi.org/10.1590/1806-9649-2024v31e13022.

[12] Hsiao, P. C. K., de Villiers, C., & Scott, T. (2022). Is voluntary International Integrated Reporting Framework adoption a step on the sustainability road and does adoption matter to capital markets? *Meditari Accountancy Research*, *30*(3), 786–818. https://doi.org/10.1108/MEDAR-08-2020-0978.

[13] Ibrahim, A. E. A., & Aboud, A. (2024). Corporate risk disclosure and cost of capital: Does measurement matter? *International Journal of Finance and Economics*, *29*(4), 3967–3994. https://doi.org/10.1002/ijfe.2862.

[14] International Integrated Reporting Council (IIRC). (2021). International <IR> Framework (Revised). *International Integrated Reporting Council*. https://integratedreporting.ifrs.org/.

[15] Ismail, T. H., & Obiedallah, Y. R. (2022). Firm performance and cost of equity capital: The moderating role of narrative risk disclosure quality in Egypt. *Future Business Journal*, *8*(1), 1–19. https://doi.org/10.1186/s43093-022-00156-2.

[16] Juniarti, J., Santoso, A. C., Hermawan, C. F., Darmasaputra, A., & Wright, J. (2025). Voluntary adoption of integrated reporting and firm valuation: The moderating effect of ESG performance. *Jurnal Akuntansi dan Keuangan*, *26*(2), 131–141. https://doi.org/10.9744/jak.26.2.131-141.

[17] Konieva, T., & Stavarek, D. (2023). The cost of equity of Ukrainian food processing companies as a measure of competitiveness. *Journal of Competitiveness*, *15*(2), 167–187. https://doi.org/10.1504/IJPMB.2014.063240.

[18] Maama, H., & Marimuthu, F. (2022). Integrated reporting and cost of capital in sub-Saharan African countries. *Journal of Applied Accounting Research*, *23*(2), 381–401. https://doi.org/10.1108/JAAR-10-2020-0214.

[19] Mawardani, H. A., & Harymawan, I. (2021). The relationship between corporate governance and integrated reporting. *Journal of Accounting and Investment*, *22*(1), 51–79. https://doi.org/10.18196/jai.v22i1.9694.

[20] Moussa, A. S., & Elmarzouky, M. (2024). Beyond compliance: How ESG reporting influences the cost of capital in UK firms. *Journal of Risk and Financial Management*, *17*(8). https://doi.org/10.3390/jrfm17080326.

[21] Muslim, A. I., & Setiawan, D. (2021). Information asymmetry, ownership structure and cost of equity capital: The formation for open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, *7*(1), 1–17. https://doi.org/10.3390/joitmc7010048.

[22] Nursimloo, S., Ramdhony, D., & Mooneeapen, O. (2020). Influence of board characteristics on TBL reporting. *Corporate Governance: The International Journal of Business in Society*, *20*(5), 765–780. https://doi.org/10.1108/CG-06-2019-0187.

[23] Pirgaip, B., & Rizvić, L. (2023). The impact of integrated reporting on the cost of capital: Evidence from an emerging market. *Journal of Risk and Financial Management*, *16*(7). https://doi.org/10.3390/jrfm16070311.

[24] Prasetyo, D. I., & Aryani, Y. A. (2025). ESG, CEO tenure, and firm performance: A real estate dilemma in ASEAN-6. *Jurnal Akuntansi dan Keuangan*, *27*(2), 105–116. https://doi.org/10.9744/jak.27.2.105-116.

[25] Radwan, S. R. A., Xiongyuan, W., Abdelall, M. A. A., & Abdelgawad, H. N. M. (2025). The impact of integrated reporting quality on the cost of equity capital: Evidence from Asia. *Journal of Financial Reporting and Accounting*, October. https://doi.org/10.1108/JFRA-06-2024-0318.

[26] Ramlall, I., & Ramdhony, D. (2025). Machine learning with applications: Exploring the cost of equity for insurance companies in the world: Evidence from machine learning approaches. *Machine Learning with Applications*, *22*(May), 100726. https://doi.org/10.1016/j.mlwa.2025.100726.

[27] Ratulian, M. C., Sabihaini, S., Salleh, F., & Prasetio, J. E. (2024). Knowledge sharing and sustainable competitive advantage: Mediating role of innovation culture and MSMEs business performance. *Asian Management and Business Review*, *4*(2), 358–375. https://doi.org/10.20885/ambr.vol4.iss2.art12.

[28] Saminem, S., Sulaiman, S., & Mohamad, M. (2022). Integrated reporting in Indonesia:

Issues, current trend, and future prospects. *International Journal of Academic Research in Business and Social Sciences*, *12*(12), 1187–1193. https://doi.org/10.6007/ijarbss/v12-i12/15897.

[29] Tanjung, M., Chang, C., & Haninun, H. (2023). Cost of capital and firm performance of ESG companies: What can we infer from COVID-19 pandemic? *Sustainability Accounting, Management and Policy Journal*, *14*(6), 1242–1267. https://doi.org/10.1108/SAMPJ-07-2022-0396.

[30] Utami, K., Amyulianthy, R., & Astuti, T. (2022). Integrated reporting in Rev. 4.0: Are Indonesian SOEs ready? Jurnal Reviu Akuntansi dan Keuangan, *12*(2), 276–293. https://doi.org/10.22219/jrak.v12i2.21444.

[31] Widyakto, A., Widyarti, E. T., Suhardjo, Y., Fresiliasari, O., & Karim, A. (2024). Effect of capital structure, company size, profitability and liquidity on company value: Evidence from Indonesia manufacturing companies. *Diponegoro International Journal of Business*, *7*(1), 70–81. https://doi.org/10.14710/dijb.7.1.2024.70-81.

[32] Zahwa, T. I., Innayah, M. N., & Rahmawati, I. Y. (2025). The maturing multiplier: Does firm age matter in the relationship between leverage, liquidity and profitability on firm value? *Journal of Accounting and Finance Management*, *6*(3), 1732–1746.

[33] Zaro, E., Flores, E., Fasan, M., Murcia, F. D.-R., & Zaro, C. S. (2022). Voluntary adoption of integrated reporting, effective legal system and the cost of equity. *Corporate Governance*, October 2021. https://doi.org/10.1108/cg-03-2021-0096.

[34] Zhang, Y., & Li, Y. (2025). Enhancing innovation capabilities, digital management, and corporate competitiveness. *Finance Research Letters*, *73*(August 2024), 106595. https://doi.org/10.1016/j.frl.2024.106595.

[35] Zimon, G., Arianpoor, A., & Salehi, M. (2022). Sustainability reporting and corporate reputation: The moderating effect of CEO opportunistic behavior. *Sustainability (Switzerland)*, *14*(3), 1–28. https://doi.org/10.3390/su14031257.